SEA Street Soil Preparation Specifications

The soil area specifications for the SEA Street project are below. Three soil mixes were used to meet the different needs throughout the project.

1. Planting Soil B was used within the detention swale areas. The high percentage of compost in this soil mix is intended to create conditions favorable for wetland vegetation. It was important to have a very mature compost product used in this area since the area will be saturated for long periods. The approved equal product used to meet the Decomposed Organic Compost specification was a Cedar Grove Compost product usually used for their bagged compost sales.
2. Roadside Planting Soil used in the 2-foot road shoulder areas; this soil mix was designed to supports occasional vehicular traffic with minimal rutting, while also supporting vegetation growth.
3. Planting Soil A was used in all other non-paved areas of the project site.

8-02.3(4) PLANTING AREA PREPARATION

Delete this section and replace with the following:

Areas to receive plant material shall include areas delineated with cross-hatching on the plans and areas behind the property line or sidewalk as field directed by the Engineer and shall be cleared, grubbed, cultivated and graded prior to planting. Herbicide shall be applied to vegetated areas prior to clearing and grubbing operations when required by the Engineer. Planting areas shall be prepared so that they are weed and debris-free at the time of planting and until Acceptance by the Owner. Planting areas shall include all planting beds, areas 5 feet in diameter around trees and shrubs, and areas indicated as such on the Drawings or designated by the Engineer.

Where it is necessary to establish the subgrade for a planting area by any combination of excavation, fill or embankment construction, the work shall be performed in accordance with the requirements of Section 2-03. The elevation of the subgrade shall take into account the requirements, if any, for adding and incorporating fill or embankment material into the natural soil, including the required quantities of planting soil and soil amendments, plus a minimum of 2 inches of mulch as topdressing. Fills and embankments shall be placed in lifts not exceeding 6 inches, with each lift compacted to 85% maximum density, as determined by the compaction control test specified in Section 2-03.3(14)E.

Planting areas shall be graded to finished subgrade and cleaned of all debris including stumps, sticks, roots and rocks or lumps larger than 3 inches and inspected before planting soil or mulch is placed.

After the subgrade of the planting areas has been graded and cleaned, planting soil and/or decomposed organic mulch, along with fertilizer and/or soil conditioners as specified in the Project Manual, shall be applied to a maximum depth of 3 inches and rototilled 6 inches into the subgrade over the entire planting area to obtain a 50-50 blend. Planting soil or decomposed organic mulch shall not be placed when the ground or planting soil is frozen, excessively wet or, in the opinion of the Engineer, in a condition detrimental to the work. When the finished grade requires more than a 6-inch lift of imported material, the initial lift shall be 3 inches and shall be rototilled 6 inches into the native subgrade. Subsequent lifts shall be 6 inches maximum in depth and compacted to 85%. The final lift shall incorporate the soil amendments and shall be rototilled to a homogenous blend. Planting areas shall then be evenly sloped from the ridge line to a point 2 inches below the surrounding surfaces. The ridge line shall be the approximate centerpoint of the planting area as shown on the Drawings.

The finished grade of planting soil prior to the installation of plant material shall be 2 inches below the top of the sidewalks or curbs to allow for 2 inches of mulch as topdressing.

Planting holes for all trees shown on the plan shall be prepared by the Contractor for planting by others by incorporating 1/3 c.y. decomposed organic mulch into a 5 foot diameter x 18 inch deep area centered on the tree. The Contractor shall place wood stakes with names of trees identified on the stake according to the information provided on the plans. The Contractor shall provide a minimum of 5 working days for stake locations to be approved prior to preparation of planting holes. The Contractor shall notify the Engineer when stakes are in place.

9-14.1(4) PLANTING SOIL (10-18-94)

Planting soil shall consist of approximately two-thirds soil and one-third decomposed organic mulch (Section 9-14.4(8)) by volume, thoroughly mixed together.

The ingredients to be used in mixing planting soil shall meet the following requirements:

Soil shall be sandy loam or loamy sand consisting largely of sand, but with enough silt and clay present to give it a small amount of stability. Individual sand grains can be seen and felt readily. On squeezing in the hand when dry, it shall fall apart when the pressure is released; on squeezing when moist, it shall form a cast that will not only hold its shape when the pressure is released, but shall withstand careful handling without breaking.

The soil component shall meet the following gradation requirements:

Sieve Size[1]	**Percent Passing**
3/8	100
#35	85-100
#100	40-60
#270	10-30

[1]US Standard Sieve Size

The mixture shall be amended to create optimum conditions for plant establishment and early growth using materials such as calcium carbonate or dolomite lime, ureaform or ureaformaldehyde, calcium nitrate, superphosphate, and sulphate of potash magnesium at rates indicated from a soil test and recommended by an approved independent laboratory, or as directed by the Engineer.

Planting soil shall be pre-mixed prior to bringing to the job site. Amendments shall be incorporated on site per 8-02.3(4).

Site specific soil testing shall be required by the Contractor for all projects requiring more than 100 cubic yards of planting soil. After placement of the planting soil in conformance with Section 8-02.3(4), soil samples shall be taken by the Engineer and submitted to the lab for testing. Test results with recommendations for amendments shall be returned from the lab directly to the Engineer.

Planting soil for projects requiring less than 100 cubic yards of planting soil shall be delivered to the site with a soil fertility and micronutrient analysis from an approved independent laboratory. Amendments shall be incorporated on site per Section 8-02.3(4) and as directed by the Engineer to provide optimum conditions for plant establishment and early growth.

9-14.1(6) PLANTING SOIL TYPE B (New Section)

Planting Soil Type B shall consist of approximately 50% native soil and 50% Decomposed Organic Compost (Section 9-14.4(9)) by volume, thoroughly mixed together.

The mixture shall be amended to create optimum conditions for plant establishment and early growth using materials such as calcium carbonate or dolomite lime, ureaform or ureaformaldehyde, calcium nitrate, superphosphate, and sulphate of potash magnesium at rates indicated from a soil test and recommended by an approved independent laboratory, or as directed by the Engineer.

Site specific soil testing shall be required by the Contractor. After placement of the planting soil in conformance with Section 2-03.3(19), soil samples shall be taken by the Engineer and submitted to the lab for testing. Soil testing shall include soil fertility and micronutrient analysis from an approved independent laboratory. Test results with recommendations for amendments shall be returned from the lab directly to the Engineer.

9-14.1(7) ROADSIDE PLANTING SOIL (New Section)

Roadside Planting Soil shall be Hendrikus Schraven Lawn Mix as available from Hendrikus Schraven Landscape Construction & Design, Inc. (206.322.8977), or approved equal.

9-14.4(8) DECOMPOSED ORGANIC MULCH

Delete this section and replace with the following:

Decomposed organic mulch shall be comprised entirely of recycled organic materials that have been sorted, ground, aerated and aged for a minimum of one year and of which 100% will pass a 7/16-inch sieve. The mulch shall have a pH between 5.5 and 7.0 and shall have a carbon to nitrogen ratio between 20:1 and 40:1 with a maximum electrical conductivity of 3 ohms/cm. The product shall be tested, and test results shall document specified requirements. Manufacturer shall submit a certified lab report dated within 2-days of submittal. The product shall be certified free of all plant parasitic organisms, viable weed seeds, heavy metals or parasitic residues.

Decomposed organic mulch quantities exceeding 50 cubic yards shall be tested after incorporation per 8-02.3(4) with testing procedure and correction of deficiencies as described in 9-14.1(4).

9-14.4(9) DECOMPOSED ORGANIC COMPOST (New Section)

Decomposed Organic Compost shall be mature, bacterial dominated compost. Thermal composted with a minimum temperature of between 135 and 160 degrees throughout the entirety for at least 15 days prior to curing. At least 90% of the material should pass a ¼ inch screen. Moisture content of the compost should range between 35 and 50%.

Decomposed Organic Compost shall be obtained from Columbia Gorge Organics, Hood River, Oregon, phone (541) 354-1066 or approved equal.